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Arms Company's plant is located, and it was to continue that work that funds were bequeathed to the General Hospital Society.

THE annual meeting of the American Society of Ichthyologists and Herpetologists will be held in the Field Museum, Chicago, on Friday, October 27, immediately following the meeting of the American Ornithologists' Union. All persons interested in any line of investigation relating to fishes, amphibians or reptiles are cordially invited to be present and take part in the meeting. Those desiring to present papers should communicate with the committee on arrangements, Karl P. Schmidt or Alfred C. Weed, Field Museum of Natural History, Chicago.

ACCORDING to the September issue of the *Decimal Educator*, the official organ of the Decimal Association, as abstracted in *Nature*, the metric system has been or is soon to be adopted in Greece, Poland, Haiti and Japan, while the Russian government is rapidly introducing it into its administrative departments. The British Chamber of Commerce in the Argentine and the consul for Bolivia again warn British exporters of the futility of quoting in pounds, shillings and pence for amounts specified in imperial weights and measures. Mr. W. A. Appleton, secretary of the General Federation of Trade Unions, states that "these weights and measures of ours cheat the home buyer and arouse the suspicion of the foreigner," and asks how many buyers know the difference in weight of a peck of potatoes and a peck of peas. The Lancashire cotton market has ceased to quote cotton in sixty-fourths of a penny and now gives the price in hundredths, but we still appear likely to fulfil the prediction of Augustus de Morgan and "adopt the metric system when every other country has done so." Sir Richard Gregory, president of the association, recommends in an introductory article that the metric system should be made the sole legal system in all departments of state, and the nation thus prepared for its general introduction, which is bound to come in its time, as it is foolish to expect the world to adopt the imperial as an international system.

UNIVERSITY AND EDUCATIONAL NOTES

A TRUST agreement made by Mrs. Lydia C. Chamberlain, formerly of Des Moines, Iowa, who lived for many years in New York City, giving \$419,000 to Columbia University for fellowships, has been upheld in the Supreme Court, but an attempt by Mrs. Chamberlain in her will to distribute the rest of her estate to Columbia also under the trust agreement, has been set aside. Mrs. Chamberlain directs that the income from the gift be used to establish "graduate" and "traveling" fellowships, to be restricted to men or women who were born in Iowa, graduated from Iowa institutions, and who return to live in Iowa. The amount payable yearly is limited to \$850.

A CAMPAIGN is being conducted to raise \$10,000,000 for the University of Southern California, Los Angeles. Plans provide for a medical school and teaching hospital which will cost, on completion, approximately \$3,500,000.

THE Prudential Insurance Company of America has made a presentation of its entire sections on geological and geographical science to the library of Wellesley College. The collection includes over 3,000 volumes, publications and maps.

DR. ELMER PIKE has been appointed medical director of the University of Vermont, to succeed Dr. David Marvin.

DR. ARTHUR HOLMES, recently president of Drake University, has been elected professor of psychology in the University of Pennsylvania, where he will have charge of the welfare of men students.

MR. ALBERT J. WALCOTT, a graduate of the University of Michigan, and for the last three years carrying on research work in optical glass with the Bausch & Lomb Optical Company, has been appointed lecturer in mineralogy at Northwestern University.

RAYMOND M. DEMING, formerly instructor in mathematics at the Case School of Applied Science, has been appointed professor and head of the mathematics department at Upper Iowa University, Fayette.

PROFESSOR ROBERT MORRIS OGDEN, of Cornell University, has been appointed lecturer on education at Harvard University for the second half of the academic year 1922-23.

DR. UHLENHUTH, director of the Behring Institute for Experimental Therapy in Marburg, has received a call to the chair of hygiene in Bonn, as the successor of Professor Neumann, who has accepted the position left vacant in Hamburg by the death of Professor Dunbar.

DISCUSSION AND CORRESPONDENCE

THE PRODUCTION OF SPECIES

TO THE EDITOR OF SCIENCE: It is often remarked by biologists who have never studied organisms in the field, that it is easy "to develop forms at will indistinguishable from actual species."

To my mind, this is one of the most deceptive of the anti-Darwinian heresies. A species is not merely a form or group of individuals distinguished from other groups by definable features. A complete definition involves longevity. A species is a kind of animal or plant which has run the gauntlet of the ages and *persisted*. Spreading across or around barriers, a species may break up into parallel or geminate species, each having run a special gauntlet of its own, its primitive qualities altering through selection, usually slowly, in the progress of the centuries. A new form inaugurated through change of surroundings, through persistent selection and segregation, or through hybridization, is not a "species" until it can hold its own with the rest. None of the created "new species" of plant or animal I know of would last five years in the open, nor is there the slightest evidence that any new species of field or forest or ocean ever originated from mutation, discontinuous variation or hybridization.

Garden or greenhouse products are immensely interesting and instructive, but they throw little light on the origin of species. To call them species is like calling dress-parade cadets "soldiers." I have heard this definition of a soldier—"one that has stood." It is easy to trick out a group of boys to look like soldiers, but you can not define them as such until

they have "stood." A greenhouse variant is easily secured; with some plants excessive variability is itself a specific character. But temporary variations have no taxonomic value. A form is not a species until it has "stood."

The production of species from ancestral forms is a process which has striking analogies to the formation of words from older roots. It is easy to make a new word, as a variant or mutation from an older root, or even to create one without a root. But these creations are not words. They do not get into the dictionaries until they have "stood." They must have held their own in the gauntlet of speech which every word has to run. The new words may look as good as old ones. Riley's "gems that laugh hysteric lights, the glittering quespar, guenk and pleocynth," sound technical enough, but these are freaks of the poet, not real words. Being artificial and unreal they are not actual words, never having "stood" in the linguistic struggle for existence.

DAVID STARR JORDAN

THE TEACHING OF EVOLUTION

READERS of Professor Pickett's article on "The Teaching of Evolution"¹ will agree that "the teaching of science, particularly of biology or related subjects, in the high school is the chief area of stress." The teaching of introductory biology demands great tact, and, of course, not all teachers have tact. However, the responsibility for the conflict between religious teaching and scientific teaching can not be placed on those teachers.

Opposition to the doctrine of evolution by Mr. Bryan and those of similar views is not opposition to what Professor Pickett calls theories of evolution. It is opposition to the doctrine of evolution in any form whatever. The dispute between Neo-Darwinian and Neo-Lamarckian does not interest them except as cause for encouragement. To them Darwinism means evolution, nothing more. With an unbending mind they recognize disagreement between the plain literal biblical account of creation and the doctrine of evolution. They embrace the former and are unable to accept any of the compromises that have been offered.

¹ SCIENCE, September 15, 1922, LVI, 298.